

ABSTRACT OF THE DISCLOSURE

Porcine circovirus-2 (PCV-2) is a recently identified agent that has been associated with post-weaning multisystemic wasting syndrome (PMWS) in swine populations. The potential spectrum of disease associated with PCV-2 is expanded by evidence of vertical and sexual transmission and associated reproductive failure. PCV-2 was isolated from a litter of aborted piglets from a farm experiencing late term abortions and stillbirths. Severe, diffuse myocarditis was present in one piglet associated with extensive immunohistochemical staining for PCV-2 antigen. Variable amounts of PCV-2 antigen were also present in liver, lung and kidney of multiple fetuses. The presence of other agents that have been associated with fetal lesions and abortion in swine including porcine parvovirus, porcine reproductive respiratory syndrome virus, encephalomyocarditis virus and enterovirus could not be established. Accordingly, inoculation of female pigs with a composition including an immunogen from PCV-2 or an epitope of interest from such an immunogen or with a vector expressing such an immunogen or epitope of interest (which composition can also include an immunogen from another porcine pathogen such as porcine parvovirus or an epitope of interest therefrom or a vector expressing such an immunogen or epitope of interest, wherein the vector can co-express both the other porcine, e.g., PPV, immunogen or epitope of interest and the PCV-2 immunogen or epitope of interest, *inter alia*), e.g., prior to breeding, such as within the first five weeks of life, or prior to the perinatal period, or repeatedly over a lifetime, or during pregnancy, such as between the 6<sup>th</sup> and 8<sup>th</sup> and/or the 10<sup>th</sup> and 13<sup>th</sup> weeks of gestation, can prevent myocarditis, abortion and intrauterine infection associated with porcine circovirus-2, as well as post-weaning multisystemic wasting syndrome and/or other conditions associated with PCV-2. In addition, inoculation of male and/or female pigs with the aforementioned compositions can be carried out to prevent transmission of PCV-2 from male to female (or *vice versa*) during mating. Thus, the invention involves methods and compositions for preventing myocarditis, abortion and intrauterine infection associated with porcine circovirus-2, as well as post-weaning multisystemic wasting syndrome and other conditions associated with PCV-2.